pastures australia
A collaboration between AWI, GRDC, MLA, RIRDC and Dairy Australia

Stylo

Scientific name(s)

Stylosanthes guianensis var. *guianensis*

Strengths

- Adapted to acid infertile soils.
- Low P demand.
- Tolerant of Al and Mn.
- Easily established from seed or cutting.
- Good growth habit for cut-and-carry.
- Does not twine.
- Leaf stays green into dry season.

Limitations

- Will not stand heavy grazing.
- Frost susceptible.
- Can reduce the yield of subsequent crops.
- Seed tends to shatter on ripening, thus reducing yields.

Plant description

Plant: Erect to semi-erect, tap-rooted, short-lived perennial legume, growing to over 1 m tall.

Stems: Usually about 2 - 3 mm thick, often carrying soft erect bristles.

Leaves: Also with scattered bristles, comprising three dark green pointed leaflets about 2 - 3 cm long and 1 cm wide.

Flowers: Small, yellow pea-type flowers about 0.5 cm across, borne in clusters at the ends of the stems.

Pods: Single-seeded, about 3 mm long and 2 mm wide.

Seeds: about 330,000 seed-in-pod or 500,000 seeds/kg
'Nina': taller, later-flowering than 'Nina' - black seeds.
'Temprano': yellow seeds.

Pasture type and use

Legume for humid tropics and subtropics, as a component in mixed grass-legume pastures, hay crop, ley crop/break crop in cropping systems. Has some value as standover since leaf is retained at least in early dry season.

Where it grows

Rainfall

Although it can survive long dry periods, and persists in areas with average annual rainfall as low as 800 mm, it is generally best adapted to areas with rainfall over 1,500mm in the tropics, and over 1,000 mm in the subtropics.

Soils

Prefers well-drained, open-textured soils from sands to light clays, but is poor on heavy clays. Well adapted to low fertility soils, including those with low pH (down to pH 4.0) and high levels

of aluminium and manganese; also adapted to slightly alkaline soils. Stylo is intolerant of soil salinity.

Temperature

-

Establishment

Companion species

Grasses: Digit grasses, Gatton and green panics, guinea grass, kikuyu, molasses grass, rhodes grass, setaria, signal grass.

Legumes: American jointvetch, centro, puero, siratro.

Sowing/planting rates as single species

4 kg/ha of seed-in-pod. Lower rates of de-hulled seed and higher rates of coated seed should be used to deliver the same number of seeds per unit area.

Sowing/planting rates in mixtures

2 kg/ha of seed-in-pod.

Sowing time

Stylo should be sown at the beginning of the wet season in the tropics, and after any danger of frost in the subtropics.

Inoculation

While stylo will nodulate on native soil rhizobium, it is better to inoculate seed, preferably with special stylo inoculum, or cowpea (Group I) inoculum if that is not available.

Fertiliser

Although adapted to soils low in phosphorus (P), stylo responds to applications of P in deficient soils, as well as to other essential nutrients if soil levels are low. Molybdenum (Mo) requirement is low, but it may be safer to apply say 100 g/ha Mo at sowing as a precaution, particularly in more acid soils.

Management

Maintenance fertliser

Usually a dressing of 200 kg/ha superphosphate every 2 or 3 years is sufficient to maintain stands.

Grazing/cutting

Cutting or grazing once plants become tall and woody can kill the plant, since there are few growing points close to the ground on mature plants. It is best to stimulate lower branching early by lightly grazing or cutting to 10 - 20 cm in the first few months. Grazing on a 1 week on and four to eight weeks off rotation, or cutting at 2 - 3 month intervals appears to favour the legume. Constant heavy grazing ultimately kills out the legume. It is also good practice to exclude stock long enough to permit seeding in the first year if possible, and every few years thereafter to build up the soil seed levels necessary for stand rejuvenation.

Seed production

In the upland tropics of Australia, 'Temprano' flowers about 1 month earlier than 'Nina'; early June harvest yielding 330 kg/ha clean dry seed. Less erect growth habit than 'Nina'

Ability to spread

Spreads by seed, moved by surface water movement or through being eaten by livestock.

Weed potential

Poses little weed threat in most situations, particularly if exposed to grazing.

Major pests

The only insect pests of any consequence are stem borers, which rarely cause severe damage.

Major diseases

The main diseases are anthracnose and botrytis head blight. The former causes "tar spots" on leaves and stems, ultimately killing susceptible varieties. Earlier cultivars succumbed to this disease. The best control is selection of resistant varieties such as 'Nina' and 'Temprano'. Botrytis head blight is a problem in seed crops, particularly during damp weather.

Herbicide susceptibility

Susceptible to Fusilade® and probably Brushoff® or Ally®, which kill most legumes.

Animal production

Feeding value

Up to 20% crude protein and 60% IVDMD, depending on stage of growth.

Palatability

Not readily eaten by cattle early in the growing season but becomes relatively more palatable than associated grasses later into the dry or cool season. With rotational grazing, animals graze the leaves first, successively taking more stem, ultimately damaging the woody main stem.

Production potential

From 250 - 600 g/head/day and from 300-500 kg LWG/ha/yr.

Livestock disorders/toxicity

None recorded.

Cultivars

Cultivar	Seed source/Information
Nina, Temprano	Southedge Seeds: marketed as mixture, 'Stylhay™'

Note: Older cultivars, 'Schofield', 'Cook', 'Endeavour' and 'Graham' no longer available commercially.

Further information

Tropical Forages database (SoFT) - Stylo

Acknowledgements

-

Author and date

Bruce Cook

November 2008